

REMARKS

The Examiner is thanked for the careful examination of the application. However, in view of the remarks that follow, the Examiner is respectfully requested to reconsider and withdraw the outstanding rejections.

The non-elected claims 13-21 have been canceled.

Art Rejections:

Claims 1, 2, 6-8, 12, and 22-24 have been rejected under 35 U.S.C. §102(e) as being allegedly anticipated by U.S. Patent No. 6,766,056, hereinafter *Huang*.

One of the objects of the present invention is to provide an efficient method for determining whether or not an image has a specified pattern. In one embodiment, the present invention is used for determining whether or not paper money is being duplicated. In order to speed up and simplify the process, the number of pixels considered at any one time is reduced. However, in view of the fact that the image being processed, e.g., money, may fade or discolor after time, a reasonable number of pixels should be considered in order to increase accuracy. See, for example, the first full paragraph on page 14 of the specification.

In one embodiment, the present invention achieves these goals by selecting certain pixels to be considered when binarizing a target pixel. Specifically, as can be seen in Figures 5 and 6, a target pixel and pixels specifying conditions are illustrated. Only the target pixel and other related pixels satisfying certain conditions are used as the basis for the color data when binarizing the target pixel.

In order to minimize the number of related pixels selected, the present invention includes a storage unit for storing a first condition that defines absolute positions of pixels in the image and a second condition on positions of pixels relative

to a target pixel. In the specification, the term "absolute position" is defined as a position of the pixel with respect to an edge of the image. In other words, the position is absolute or fixed with respect to the entire image, as opposed to fixed with respect to a target pixel.

Such a condition is not taught or suggested in *Huang*. In *Huang*, the selected pixels are all selected based on their relative position to a target pixel, not with respect to an absolute position. On pages 2-3 of the Official Action, the Examiner disputes this conclusion and argues that block 41 (the sub-sample control) of Fig. 4 subsamples pixels at regular intervals throughout the image. The Examiner then concludes that: "It can therefore be said that the absolute positions of the maintained pixels are fixed with respect to the edge of the image; the positions of the maintained pixels do not depend on the location of the target pixels or the like – the pixel positions are fixed and spaced at regular intervals."

Only the last portion of this statement "the pixel positions are fixed and spaced at regular intervals" is correct. Specifically, the subsample control 41 provides subsampling instructions to the pixel buffer pipe 42, which as illustrated in Fig. 5, and described at column 6, lines 55-63, defines the "current pixel being processed", i.e., the target pixel, as pixel 0. The remaining pixels 1 through 7 are the next pixels to be processed. The pixels that are to be subsampled are therefore the pixels in the pixel buffer pipe 42. This is clear based on the fact that the subsample instructions 50, 51 (referred to as 51 and 52 in the specification) are applied to the pixel buffer pipe 42, not to the entire set of image data. Accordingly, the subsampling instructions are used to reduce pixels based on their relationship to the current pixel being processed, i.e., the target pixel 0. Thus, in *Huang*, the positions

of the maintained pixels are based on their relationship with the target pixel, not based on an absolute position, such as the edge of the image. Accordingly, the Examiner's understanding of *Huang* is incorrect. Huang does not teach the first condition based on absolute positions of the pixels in the image.

Since the present invention uses two conditions, one absolute and the other relative, more variation in the pixel selection is obtainable over the prior art.

Claims 8 and 12 are similar to claim 1 in that they also define two conditions, one absolute and the other relative. Accordingly, all three independent claims 1, 8, and 12 distinguish over *Huang*.

Claims 4 and 10 have been rejected under 35 U.S.C. §103(a) as being unpatentable over *Huang* in view of U.S. Patent No. 5,434,953, hereinafter *Bloomberg*. The Examiner relies upon *Bloomberg* for its alleged teaching that a typical sub-sampling operation involves dividing an image into square blocks of pixels and then selecting a predetermined pixel from each block, resulting in a sampling of every Nth pixel from the original image. However, the Examiner does not allege that *Bloomberg* selects the pixel in each block based on a fixed or absolute positional criteria. In fact, *Bloomberg* teaches that the selected pixel is selected based on criteria other than absolute position. See column 5, lines 64-66, and claim 1. Accordingly, *Bloomberg* does not overcome the deficiency of the *Huang* with regard to the rejections set forth and discussed above. Accordingly, Applicant submits that the combination is inappropriate and should be withdrawn.

Claims 3 and 9 have been rejected under 35 U.S.C. §103(a) as being unpatentable over *Huang* in view of U.S. Patent No. 5,687,252, hereinafter *Kanno*. The Examiner relies upon *Kanno* for its teaching of a number of different binarization

processes that may be carried out in order to binarize image data. However, *Kanno* does not overcome the deficiency of the remaining references with regard to the rejections set forth and discussed above.

Accordingly, Applicant respectfully requests the Examiner to reconsider and withdraw the rejections of claims 1-12 and 22-24 in view of the foregoing remarks.

In the event that there are any questions concerning this response, or the application in general, the Examiner is respectfully urged to telephone the undersigned attorney so that prosecution of the application may be expedited.

Respectfully submitted,

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